

Abstract

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A system controls access to a plurality of devices with only four lines by grouping the devices in nodes, wherein each node includes a local control circuit and a predetermined number of the devices, with each local control circuit defining a shift register, the positions of which are respectively connected to the devices. The nodes are connected in series with a host controller, so that the shift registers of the several nodes cooperate to form a system shift register. The nodes are serially addressed by a serial data message from a DATA OUT line of the host controller, which message includes $M \times N$ data bits followed by strobe indicator, where N is the number of nodes and M is the number of devices at each node. All controllers are connected to a $V+$ line and a COMMON line and a RETURN line. The system register forms a fourth line, one end of which is connected to the host controller DATA OUT terminal and the other end of which may be connected to the RETURN line.

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